



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/646,359 | 08/22/2003 | Steve D. Schmeichel | 758.1452USU1 | 8621 |

7590 09/08/2006

Merchant & Gould P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903

EXAMINER

TRAN, DIEM T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3748

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/646,359 | Applicant(s) SCHMEICHEL ET AL. | |
| | Examiner Diem Tran | Art Unit 3748 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20,21,23 and 24 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20,21,23,24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Upon further consideration of a newly found prior art, the examiner thereby withdraws the indicated patentable subject matter of claims 20, 21, 23, 24; and a new non-final rejection is set forth below. Overall, claims 20, 21, 23, 24 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antoku et al. (US Patent 4,282,713).

Regarding claims 20, 23, Antoku discloses a method for engines to reduce emissions, the method comprising:

installing a blow-by filter (20) in gas flow communication with the engine blow-by gases from the blow-by vent structure and in further gas flow communication with the engine air intake structure (see col. 3, lines 47-50); and installing a catalytic converter (16) in gas flow communication with the exhaust gases from the engine exhaust port structure (see Figure 1); however, fails to disclose that the combined reduction of the blow-by gas emissions and the exhaust gas emissions satisfies the minimum reductions in emissions required by government

Art Unit: 3748

regulations governing retrofits of model year 1991-2003 on high way diesel engines rated to produce from 150-600 horsepower.

With regard to the functional language stating that “the combined reduction of the blow-by gas emissions and the exhaust gas emissions satisfies the minimum reductions in emissions required by government regulations governing retrofits of model year 1991-2003 on high way diesel engines rated to produce from 150-600 horsepower”, since the system disclosed in Antoku has the same structure (i.e. a blow-by filter in gas communication with the engine blow-by gases and the catalytic converter in the exhaust gas system) as that in the Applicant's system, the Examiner has no reason to believe that Antoku's system would not given the same results as that claimed in the functional statement.

Claims 21, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antoku et al. (US Patent 4,282,713) in view of Gieseke et al. (WO 01/47618).

Regarding claim 21, 24, Antoku discloses all the claimed limitations as discussed in claims 20, 23 above, however, fails to disclose the structure of the blow-by filter. Gieseke teaches that a blow-by filter including:

a first end cap and a second end cap; the first end cap including a central gas stream inlet aperture; a second stage filter comprising a tubular construction of pleated media extending between the first end cap and the second end cap; the tubular construction of media defining an open tubular interior; the central gas stream inlet aperture of the first end cap being in flow communication with the open tubular interior; a first stage coalescer filter oriented in extension across the gas stream inlet aperture; the pleated media of the second stage filter, the first end cap,

Art Unit: 3748

the second end cap, and the first stage coalescer filter being unitary in construction (see page 7, lines 1-3); said first stage coalescer filter including a nonwoven fibrous bundle having a first upstream surface area; said second stage filter including pleated media having a second upstream surface area (see Figures 4, 5, page 2, lines 4-13, page 11, lines 25-32, page 12, lines 1-11); however, fails to disclose a first upstream surface area being no more than 10% of the second upstream surface area.

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the teaching of Gieseke in the Antoku system, since the use thereof would have reduced the pollutant emissions from the engine.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a specific optimum range of the first upstream surface area of no more than 10% of the second upstream surface area, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

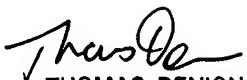
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (703) 872-9306.

Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DT
August 28, 2006

Diem Tran
Patent Examiner
Art unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700